AF

Docket No. END919980071US1 ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: M. W. Beach, et al.

Application No.: 09/244,304
Filed: 3 Feb 1999

Group No.: 3624
Examiner: Dr. Geoffrey R. Akers

For: Preprocessor System and Method for Rejection of Duplicate Invoices

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

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TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION – 37 C.F.R. § 1.192)

1. TRANSMITTAL

Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on 10 Dec 2003.

2. STATUS OF APPLICANT

This application is on behalf of other than a small entity.

CERTIFICATE OF MAILING (37 C.F.R. § 1.8(A))

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, Mail Stop Appeal Brief - Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name: Judith A. Beckstrand

Date: 3 Feb 2004 Signature: Judith A Beckstrand

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3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 1.17(c), the fee for filing the Appeal Brief is $320.00 for other than a small entity.

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply. Applicant believes that no extension of term is required. However, if an extension of term is required, please consider this a petition therefor.

5. TOTAL FEE DUE:

The total fee due is:

Appeal brief fee	$ 330.00
Extension fee (if any)	$ ____
Total Fee Due:	$_330.00

6. FEE PAYMENT:

Charge IBM Deposit Account No. 09-0457 the sum of $ 330.00. A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

This is a request to charge IBM Deposit Account No. 09-0457 for any required additional extension and/or fee, or for any required additional fee for claims.

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ATTENTION: Board of Patent Appeals and Interferences

APPELLANT'S BRIEF (37 C.F.R. § 1.192)

This brief is in furtherance of the Notice of Appeal, filed in this case on 10 Dec 2003.

CERTIFICATE OF MAILING (37 C.F.R. § 1.8(A))

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, Mail Stop Appeal Brief-Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name: Judith A. Beckstrand

Date: 3 Feb 2004 Signature: Judith A. Beckstrand

The fees required under 37 C.F.R. §1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate.

This brief contains these items under the following headings, and in the order set forth below:

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IV STATUS OF AMENDMENTS

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X. OTHER MATERIALS THAT APPELLANT CONSIDERS NECESSARY OR DESIRABLE

The final page of this brief bears the practitioner's signature.

I REAL PARTY INTEREST

The real party in interest in this appeal is International Business Machines Corporation, Armonk, New York.

II RELATED APPEALS AND INTERFERENCES

No appeals or interferences will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 12-19.

B. STATUS OF ALL THE CLAIMS

1. Claims canceled: 1-11

2. Claims withdrawn from consideration but not canceled: None

3. Claims pending: 12-19

4. Claims allowed: None

5. Claims rejected: 12-19

C. CLAIMS ON APPEAL

The claims on appeal are: 12-19

IV STATUS OF AMENDMENTS

The status of any amendment filed subsequent to the final rejection is, insofar as understood by appellant, as follows:

No amendment has been filed subsequent to the final rejection.

V SUMMARY OF INVENTION

Appellants invention as set forth in claims 12-19 relates to a system and method for operating an account payable computing system. At the highest level, it is described in connection with Figure 1 at page 10, line 17 to page 11, line 3. Electronic invoices 201 received from a vendor 110 are pre-processed in steps 80, 82 (see also Table 1) by preprocessor 130 before introduction into an accounts payable data base 152 to identify duplicate invoices.

The process for identifying duplicate invoices (Figure 2, appellants' specification, page 11, lines 4-15) involves a sorting process for identifying those invoices having a

same vendor invoice designation in step 88, same purchase order number in step 90, and same item number in step 92. In step 94, a net sum is calculated of items on invoices identified as having the same vendor invoice designation, same purchase order number, and same item number. In step 94, an original invoice for which the net sum is greater than zero is identified as a duplicate invoice 96.

In steps 84,96, a duplicate invoice rejection transaction is communicated back to vendor 110 for an original electronic invoice identified as a duplicate invoice without posting the original electronic invoice to accounts payable data base 152; and in steps 86, 98 an original electronic invoice not identified as a duplicate invoices is logged to the accounts payable data base 152.

The above summary pertains to all claims, and the following more specifically to claims 16-19.

The system of the invention is set forth in Figure 3A and 3B, and are described in appellants' specification at page 11, line 16, to page 13, line 8. Its operation is described in connection with checkpoint 0 through 8 at page 13, line 9, to page 16, line 2, and includes rejecting (116,

209) original electronic invoices received from vendors not initialized as trading partners, and translating (114) original electronic invoices received from vendors initialized as trading partners; assuring (Fig. 3A, checkpoint 1) that during translating the count of translated invoices rejected and accepted equals the number of original electronic invoices translated, and feeding (211, 215) accepted invoices for preprocessing (130); preprocessing (130) invoices (211) accepted for preprocessing as received from a trading partner vendor, the preprocessing selectively (Fig. 3A, checkpoint 2) validating a transaction, calculating line item accounts, deducting sales tax, and identifying original electronic invoices which are duplicate invoices before introduction into an accounts payable data base.

Identifying duplicate invoices includes:

sorting (130, page 10, lines 10-11) all inbound invoices in credit/debit sequence;

auditing only debit invoices (130, page 10, lines 15-16) one at a time for duplicate invoices and committing (219) to the accounts payable data base 152 only those

debit invoices 98 which are not duplicate invoices;

identifying invoices having a same vendor invoice designation (88), same purchase order number (90), and same item number (92);

calculating (Table 1, lines 83-89) a net sum of items on invoices identified as having same vendor invoice designation, same purchase order number, and same item number;

identifying as a duplicate invoice an original electronic invoice (201, 112, 205) for which the net sum is greater than zero; the identifying including execution of check verbs (each check verb must be satisfied to identify the invoice as a duplicate invoice);

The check verbs are described at page 16, line 3 to page 19, line 14, in connection with Table 1 and include determining (Table 1, line 25) that this vendor is a vendor for which duplicate invoice checking is to be performed, determining (Table 1, line 69) that there is a purchase order

history of previous purchase orders for the invoice, and determining (Table 1, line 85) for each item on the invoice a sum of its purchase order history. This sum, if greater than zero for at least one item, will indicate a duplicate invoice.

automatically communicating (84, Table 1 below line 14) a duplicate invoice rejection transaction back to the vendor for an original electronic invoice identified as a duplicate invoice without posting the original electronic invoice to the accounts payable data base 152;

posting the invoice to a workflow database 156 and assuring (Fig. 3B, checkpoint 3) that the number and amount of invoices posted to the workflow database equal the number and amount of translated invoices accepted (at 114) for preprocessing (at 130);

logging to an error queue (checkpoint 4) invoices failing audit for subsequent manual processing (162);

logging to an exceptions and warnings log table (136,

checkpoint 5) as exceptions invoices which are determined during preprocessing to be duplicate invoices and as warnings invoices which during preprocessing were recalculated or had sales tax deducted;

introducing (150, 219) original electronic invoices not identified as duplicate invoices into the accounts payable data base 152.

VI ISSUES

1. Whether claims 12-13, and 15 are unpatentable under 35 U.S.C. 103(a) over Klein (U.S. Patent 5,845,285) in view of Geer (U.S. Patent 5,930,778).

2. Whether claim 14 is unpatentable under 35 U.S.C. 103(a) over Geer (U.S. Patent 5,930,778) and further in view of Rail (U.S. Patent 5,680,611).

3. Whether claims 16-19 are unpatentable under 35 U.S.C. 103(a) over Klein (U.S. Patent 5,845,285) in view of

Geer (U.S. Patent 5,930,778) and further in view of Taylor (U.S. Patent 5,899,981).

4. Whether claim 15 is unpatentable under 35 U.S.C. 101 for failing to provide a concrete and tangible result.

VII GROUPING OF CLAIMS

1. Claims 12-14 stand or fall together.

2. Claim 15 stands alone (with respect to the 101 issue, and together with claims 12-14 with respect to the 103 issue).

3. Claims 16-19 stand or fall together.

VIII ARGUMENTS

Claim 15 stands alone for it is the only claim rejected under 35 U.S.C. 101, and therefore the issue on that point

is separate. On the 35 U.S.C. 103 rejection, this claim stands and falls together with claims 12-14.

Claims 16-19 are separately patentable inasmuch as these were introduced to draw in specific limitations from the program code of Table 1 which the Examiner characterized (Final Office Action, page 14) as necessitating a new ground of rejection under 35 U.S.C. 103, and against which new art (the Taylor reference) has been cited.

- **ARGUMENT: VIIIA** **REJECTIONS UNDER 35 U.S.C. 112, FIRST PARAGRAPH**

Not applicable.

- **ARGUMENT: VIIIB** **REJECTIONS UNDER 35 U.S.C. 112, SECOND PARAGRAPH**

Not applicable.

- **ARGUMENT: VIIIC** **REJECTIONS UNDER 35 U.S.C. 102**

Not applicable

• ARGUMENT: VIIID REJECTIONS UNDER 35 U.S.C. 103

Claims 12-19 have been rejected under 35 U.S.C. 103(a) over various combinations of Klein, Geer, Rail, and Taylor.

Appellants traverse, and argue that the Examiner has not established a prima facie case of obviousness.

Official Notice

The Examiner has taken official notice of the following concepts:

1. To grab data before input into a database for the purpose of examination for error. (Final Office Action, page 4, line 9.)

2. To use EDI for invoicing. (Final Office Action, page 4, line 11.)

3. To determine duplicate invoice as having same vendor

invoice designation, same purchase order number, and same item number in the art of invoice comparison. (Final Office Action, page 5, line 3.

4. The same as Concept 3, plus having sum greater than zero. (Final Office Action, page 9, line 2.)

Appellants have not contested the second, that EDI may be used for invoicing.

However, for concepts 1,2 and 4, appellants have called for affidavits of the Examiner which have not been forthcoming. See Amendment After Final, pages 19, 22, 26, and 29.

Consequently, appellants have not been afforded the opportunity to provide affidavits in rebuttal or explanation as is their right under 37 CFR 1.104(d)(2) which states:

> "...the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons."

Inasmuch as the requested affidavits in support of official notice have not been forthcoming, appellants

request that concepts 1, 2 and 4, above, NOT be deemed as taught by the prior art in considering the rejection of all claims 12-19 under appeal.

Review of Cases and Principles Regarding a Prima Facie Case Under 35 U.S.C. 103 Pertinent to the Present Appeal

Applicants traverse the rejections under 35 U.S.C. 103, and argue that the Examiner has not established a prima facie case of obviousness, which requires that the Examiner provides

1. one or more references
2. that were available to the inventor and
3. that teach
4. a suggestion to combine or modify the references,
5. the combination or modification of which would appear to be sufficient to have made the claimed invention obvious to one of ordinary skill in the art.

The fourth element of the prima facie case, the suggestion to combine, must come from the prior art. It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent

some teaching or suggestion, in the prior art, to combine the elements. [See Arkie Lures, Inc. v. Gene Larew Tackle, Inc., 43 USPQ 2d 1294 (Fed. Cir. 1997)]. That a claimed invention may employ known principles does not itself establish that the invention would have been obvious, particularly where those principles are employed to deal with different problems. [See Lindermann, supra.] The Examiner must consider the claim as a whole, and not piece together the claimed invention using the claims as a guide. The Federal Circuit has stated: "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. [See In re Fritch, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992)].

"In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). To reach a conclusion of obviousness under § 103, the Examiner must produce a factual basis supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Such evidence is required in order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984).

The Examiner must not only identify the elements in the prior art, but also show 'some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references." In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). (Ex parte Rao S. Chintakrindi, Thomas E. Murphy, Paul F. Rieth and Jeffrey S. Stevens, Non-binding decision of the Board of Patent Appeals and Interferences, 9/30/2003 in Appeal No. 2001-2578, Application No. 08/977,547 filed 25 Nov 1997, END919970136US1.)

"A rejection under 35 U.S.C. § 103 must be based on whether there is a teaching, motivation, or suggestion to select and combine the references based on objective evidence of record. Therefore, the Examiner must identify a reason, suggestion, or motivation which would have led an inventor to combine those references. Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629, (Fed. Cir. 1996). Additionally, 'the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.'" (Ex parte Rao S. Chintakrindi, Thomas E.

Murphy, Paul F. Rieth and Jeffrey S. Stevens, Non-binding decision of the Board of Patent Appeals and Interferences, 9/30/2003 in Appeal No. 2001-2578, Application No. 08/977,547 filed 25 Nov 1997, END919970136US1.)

As will be argued hereafter, the various elements of the prior art have been combined by the Examiner using hindsight reasoning based at least in significant part on official notice which should not be considered as taught by the art.

Klein does not teach or suggest the invention as claimed in claim 12; Geer has not been applied to claim 12

Klein teaches a system and method for determining the accuracy of a database. He states:

> "The most precise way to determine the accuracy of a database is to review each and every field within each and every record in the database. However, in virtually every real-life situation the cost and time to review an entire database is prohibitive. Instead, a conventional technique is to request a professional trained in information audits to determine the accuracy of a database." (Klein, Col. 1, lines 48-55.)

He then goes on to discuss other methods of the prior art and his own invention (utilizing neural networks) for

identifying duplicate invoices, all of which are based on an examination of the accuracy of the overall database.

Kline Does Not Teach Preprocessing of Invoices as Distinguished from Examination of an Accounts Payable Database

With respect to claim 12, the Examiner appears to appreciate that distinction, for he observes "However, Klein does not specifically teach preprocessing of invoices." (Final Office Action, page 3, lines 8-9). Further, "Klein does not explicitly teach introduction to and rejection from a accounts payable data base." (Final Office Action, page 3, lines 14-15).

Appellants agree. Nor does Klein teach such by implication, nor does Appellant claim rejection from an accounts payable database, for such assumes that the invoices being checked are in the data base when they are checked -- and in appellants' invention duplicate invoices never make it into the accounts payable database.

Appellants would add that Klein can only be considered as applicable to systems which examine the database, as distinguished from examining invoices for duplicates before they can be introduced into the data base. Klein clearly

teaches a method of finding duplicates after data is entered into a database, and thus teaches away from appellants solution to the problem of duplicate invoice processing.

The Examiner is correct in noting that "Klein does not explicitly teach grabbing an inbound EDI invoice file from a vendor before it is input to a accounts payable database and creating a transaction to a vendor." (Final Office Action, page 4, lines 7-9). The Examiner then takes official notice that "it is old and well known in the art of electronic communication and commerce to use EDI for invoicing." Appellants agree.

The Examiner also asserts "However, official notice is taken that it is old and well known in the art of data entry to grab data before input into a database for the purpose of examination for error." (Final Office Action, page 4, lines 9-11. Based on this assertion, the Examiner then concludes:

> "It would have been obvious to one of ordinary skill in the art at the time of appellants' invention to grab an inbound EDI invoice data before inputting it into a database because this would allow detection of duplicate as soon as possible." (Final Office Action, page 4, lines 12-15).

Appellants traverse this conclusion. It is based in

part on personal knowledge ("official notice") for which the affidavit requested by appellants, as previously stated, has not been forthcoming.

Klein Does Not Teach Automatically Creating a Rejection Notice to a Vendor as a Result of Invoice Preprocessing

The Examiner states that, "Klein does not explicitly teach creating transaction back to the vendor." (Final Office action, page 4, line 15). Appellants agree. Nor does Klein teach such by implication. The Examiner states:

> "However, Klein suggests this feature by disclosing a warning report system (column 26, particularly lines 38-43)." (Office Action, page 4, lines 15-16).

Appellants argue that the Klein reference does not teach nor suggest creating a rejection message back to the vendor automatically, as appellants' claims recite. Referring to Klein Figure 24B and the description of it at column 26, the electronic mail feed back is to data supplier (verification) on the output of approval system 158, and the warning system report 160 output is for review of suspect data 162 and re-input of corrected data 164. Neither of these is related to invoice processing prior to loading the invoice to an accounts payable database, and both of them are related to the evaluation and processing of data already in that

database. Appellants assert that nothing in Klein "suggests this feature" of creating transaction back to the vendor which rejects a duplicate invoice before it is committed to the accounts payable database.

The Examiner continues:

> "It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to create a transaction back to the vendor because this would allow the vendor to be informed of the mistake and take corrective action." (Office Action, page 4, lines 17-19.)

Appellants traverse this conclusion. Appellants are the first to recognize that duplicate invoices can be detected and rejected back to the vendor during preprocessing, that is, before being logged to the accounts payable database based upon the specific zero sum algorithm set forth in the claims for identifying those duplicates. Previously, any feed back to the vendor to "allow the vendor to be informed of the mistake and take corrective action" was done by analysis of the data logged to the accounts payable (A/P) database. In this instance, the Examiner is engaging in improper hindsight reasoning, using appellants own teachings in derogation of the claim.

Klein Does Not Teach Applicants' Claimed Zero Sum Calculation Based on Same Vendor Invoice Designation, Same Purchase Order Number, and Same Item Number

The Examiner continues:

> "Klein does not explicitly teach determining duplicate invoice having same vendor invoice designation, same purchase order number, and same item number. However, Klein at least suggests this feature by disclosing determining duplicate invoice by comparing invoice number. Furthermore, official notice is taken that determining duplicate invoice having a same vendor invoice designation, same purchase order number, and same item number is old and well known in the art of invoice comparison. It would have been obvious to one or (sic) ordinary skill in the art at the time of appellant's invention to determine duplicate invoices by comparing same vendor invoice designation, same purchase order number and same item number because this would allow accurate identification of duplicate invoices." (Office Action, page 4, line 19 to page 5, line 8.)

Again, appellants traverse. Any suggestion derived from Klein in this regard leads away from appellants invention. The Examiner seems to recognize (at page 5, lines 5-8) that analysis of invoices based on just purchase order number is not sufficient. To analyze incoming invoices before logging to the A/P database on invoice number alone leads to a patently wrong conclusion. Appellants teach and claim (claim 12, lines 7-15), and Klein does not teach, a specific zero sum calculation for determining duplicate invoices prior to logging the invoice

to the A/P database -- in accordance with an algorithm which performs the calculations on vendor invoice number, purchase order number, and item number as set forth in the claims.

The above conclusion of the Examiner (Office Action, page 5, lines 1-4) is based upon official notice. Appellants requested and have not received an affidavit of the Examiner with respect to such notice, and have not been afforded the opportunity to introduce affidavits to explain or rebut the Examiner's assertion.

Geer Does Not Teach Preprocessing of Invoices to Identify and Reject Duplicate Invoices Prior to Adding Them to an Accounts Payable Database

The Geer reference was not asserted by the Examiner against claim 12, specifically, but it was with respect to dependent claim 13 with respect the concept of preprocessing. Preprocessing is a concept which is present in all of appellants' claims.

The Examiner states with respect to the preprocessing feature of applicants' claims:

> "Klein dos not explicitly teach preprocessing of invoices before introduction into an accounts payable data base. However, Geer discloses preprocessing of

invoices before introduction into an accounts payable data base (abstract, column 6, particularly lines 43-45). It would have been obvious... to use method of duplicate invoice identification of Klein in preprocessing of invoices of Geer because this would allow duplicate data to be sorted out as soon as possible." [Office Action, page 7, line 18 to page 8, line 4.]

The teachings of Geer referenced by the Examiner are as follows:

> "A system and process are described for effecting the expedited submission into the payment system for collection of funds represented by financial instruments that are received by a payee at an item capture facility remote from the payee's depository bank in which the submission of the instruments into the payment system is coordinated with the payee's internal accounting process and the register of the deposit of the instruments with an account at the instruments payee's bank." [Geer, Abstract.]
>
> "...physical paper checks are not transported from the payee's location. Appropriate information from the checks is extracted and converted into electronic form for sorting, processing and transmission into and through the payment system. The physical checks are disposed of, typically following imaging and archival storage by electronic, optical, microfilm or other means at the payee's location (or other location remote from the depository bank)." [Geer, col. 6, lines 40-49.]

Applicants traverse the Examiner's characterization of Geer. The preprocessing that Geer discloses occurs at a remote station, where a paper check is converted to electronic form "for sorting, processing and transmission into and through the payment system." There is no teaching

or suggestion of pre-processing to identify duplicate invoices before they are transmitted into a payment system.

Klein Does Not Teach Appellants' Net Sum Greater than Zero Test for Determining Duplicate Invoices

The Klein reference was not asserted specifically against claim 12 as pertinent to appellants' claimed net sum greater than zero calculation and test which appears in all of appellants' claims. However, it was with respect to claim 13, which depends from claim 12.

The Examiner states:

> "Further Klein also discuss threshold value, term to describe the function of the 'net sum greater than zero' of applicants' invention. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to use invoice for same vendor, purchase order billed, and items billed as entries that are used in neural network comparing and sorting method of Klein because those entry values are essential for determining duplicate data." [Office Action, page 5, lines 17-20.]

Applicants traverse this assertion. Klein, for example, does not teach that the same vendor, purchase order billed, and items billed can be used to derive a net zero sum. Rather, Klein teaches that the prior art method identifies duplicates as those with identical invoice number, and goes on to teach that his invention will identify duplicates where there has been input variations of misspelled, additional, missing, and transposed letters.

Apparently, the Examiner is relying on personal knowledge in asserting that same vendor, purchase order billed, and items billed are "entry values ... essential for determining duplicate data" [Office Action, page 5, lines 19-20], for Klein specifically teaches (as is quoted above, Klein Col. 6) other algorithms for determining duplicate invoices. Therefore, according to the specific teachings of Klein, there are other ways to determine duplicates. If there are other ways, then the Examiner must be relying on personal knowledge (or hindsight reconstruction of Klein in view of Applicants' disclosure) in asserting otherwise. Consequently, applicants requested the affidavit of the Examiner identifying specific art which supports the statement at lines 18-20 of the Office Action: "same vendor, purchase order billed, and items billed ... entry values are

essential for determining duplicate data." That affidavit has not been received.

The Examiner states:

> "...obvious... to use zero as the threshold value disclosed in Klein because this would allow maximum detection of duplicates." [Office Action, page 5, line 20 to page 6, line 2.]

The only correspondence between zero sum as used in applicants' claims and "zero as the threshold value" in the Examiner's assertion is the use of the word "zero". Even if zero is used as the threshold value in Klein, it still does not teach the zero sum algorithm of applicants' claims. Klein teaches that his threshold value is set to identify fraudulent or duplicative data [Col. 27, line 36] present in a database being audited [Col. 27, line 5], and such data is described as "exact duplicates [or] the same data... entered two or more times with any combination of the following types of variations: Misspelled Letters... Additional Letters... Missing Letters... Transposed Letters...". [Klein, col. 6, lines 11-31.] The Klein process for calculating accuracies and process error threshold is set forth at columns 21-30, all based on neural pattern matching techniques which are not in any way related to appellants'

zero sum calculation as set forth in all of the claims on appeal.

There is no suggestion in Klein of the zero sum algorithm of appellants' claims 12-19.

Rail Does Not Teach the Zero Sum Logic of Applicants' Invention

The Rail reference, while not specifically cited against claim 12, is cited against claim 14 and does relate to zero sum logic, which is also called out in claim 12.

With respect to Rail, the Examiner states:

> "Rail teaches net sum logic for evaluating debit invoices in sequential order with respect to previously received debit and credit invoices to identify a duplicate debit invoice item (Fig 3/220/212/214/202 /204/208) Fig 2/104/106/108/114/116/110/112) (col 2 line 50-col 3 line 5),..." [Office Action, page 9, lines 15-18.]

> "...a duplicate debit invoice item being an invoice item having a net sum greater than zero determined with respect to previously received invoices in the same vendor invoice designation, same purchase order number, and same item and posting logic being further operable for posting to said accounts payable database only those debit invoices for which said invoice items have a net sum less than or equal to zero (col 4 lines 46-63) (col 5 lines 39-49) (col 5 lines 8-22)." [Final Office Action, page 9, line 15 to page 10, line 5.]

Appellants argue that Rail does not teach to one of ordinary skill in the art the rejection of invoices to vendors. Rail clearly teaches a method to review call records to prevent a record from appearing twice on a bill being sent to a customer. Its teachings clearly indicate that after matching the call records, if a duplicate is found, that the duplicate goes to an audit file, and is not rejected back to a vendor.

Rail does not teach to one of ordinary skill in the art the use of net sum logic for evaluating invoices. Rail deals with the creation of bills to be sent for payment, not for invoices received for payment. Rail teaches a method that creates a "checksum" (specific characteristics of an invoice to be sent) and compares the checksum to checksum of previously created invoices to ensure a duplicate bill is not mailed. There is no teaching of how to prevent invoices to be paid from entering the database using a net zero logic. A 'checksum' is not a net zero calculation as that is set forth in applicants' claim.

The Examiner concludes:

"It would have been obvious... to combine Geer in view Rail to teach the above. The motivation for this is to

describe a computing system that can correctly bill and remit debits and credits to clients and vendors." [Office Action, page 10, lines 5-8.]

Applicants are not claiming a system for "correctly billing and remitting debits and credits to clients and vendors." They are claiming a computing system including a preprocessor for identifying duplicate invoices before entering them into an accounts payable data base, and an invoice processor for communicating a duplicate invoice rejection back to the vendor. Neither Rail nor Geer teach such, either separately or in the combination suggested by the Examiner.

Taylor Does Not, In Combination With Klein and Geer, Teach Appellants' Claims 16-19

The rejection of claims 16-19 at page 10 line 12 through page 13 line 10 of the Final Office Action is identical to that for claim 12 at page 3 line 3 through page 5 line 8 (except that page 12 lines 9-16 is a repeat of page 11 line 19 through page 12 line 9).

Applicants have previously discussed the portion of the rejection of claims 16-19 as they pertain to claim 12.

The Examiner then, at page 13 line 10 to page 14 line 4 of the Final Office Action, lists several features of the Taylor reference without applying them to the language of appellants' claims, and concludes with the statement that it would be obvious to combine Klein, Geer and Taylor "to teach applicant's disclosure."

It is appellants' claims, not disclosure, which should be the object of the examination, and the Examiner does not read Taylor's teachings on appellants' claims 16-19 with sufficient specificity to enable appellant to determine the basis on which these claims are rejected.

Appellants argue that any possible reading of these features of Taylor on appellants claims would require hindsight reconstruction of the Taylor, Klein, and Geer references using appellants own teachings as a roadmap.

- **ARGUMENT: VIIIE** **REJECTIONS OTHER THAN 35 U.S.C. 102, 103 AND 112: SPECIFICALLY, 35 U.S.C. 101.**

Claim 15 has been rejected under 35 U.S.C. 101 for failing to provide a concrete and tangible result.

The claim provides the concrete and tangible result of providing in a memory device a series of program steps executable by a computer for, among other things, automatically communicating a duplicate invoice rejection transaction back to a vendor for a duplicate invoice without posting the original electronic invoice to an accounts payable data base; and storing original electronic invoices not identified as duplicate invoices into the accounts payable data base.

Communicating the rejection transaction and storing of only non-duplicate invoices in the accounts payable data base are, appellants argue, concrete and tangible results.

These results are like those deemed to produce 'a useful, concrete and tangible result' in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601. In that case the result was transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

In appellants' claim 15, an invoice is pre-processed to identify whether or not it is a duplicate invoice, and if so a rejection message is automatically communicated back to the vendor submitting the invoice and only if it is not a duplicate invoice is that invoice logged to an accounts receivable database for subsequent payment. These results are determined through the specific sorts and tests set forth in the claim, and are accepted and relied upon by the vendee to correct or otherwise process his invoice and by the vendor to process his accounts payable.

Further, appellants are claiming a computer-readable medium encoded with a data structure for controlling the operation of a computer and which therefore defines structural and functional interrelationships between data structures and the computer software and hardware components which permit the data structure's functionality to be realized. In this case, the data structures which are defined include an accounts payable store IDOC Table 152 from which duplicate invoices have been excluded through the preprocessing steps 80, 82, 94 set forth in the identifying and calculating steps 88, 90, 92, 94 and 96 of the claim. For this further reason the claim is not drawn merely to a mathematical process which produces no concrete and tangible

result.

IX APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

12. Method for operating an account payable computing system, comprising:

preprocessing before introduction into an accounts payable data base original electronic invoices received from a vendor to identify duplicate invoices, including:

identifying invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is greater than zero;

automatically communicating a duplicate invoice rejection transaction back to said vendor for said original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base; and

introducing said original electronic invoices not identified as duplicate invoices into said accounts payable data base.

13. The method of claim 12, said preprocessing including

first sorting said original electronic invoice against an accounts payable production table for same vendor and same vendor invoice number;

second sorting hits from said first sorting for same purchase order billed;

third sorting hits from said second sorting for same items billed on purchase order;

calculating a net sum of said same items; and

rejecting back to said customer as a duplicate invoice said original electronic invoice if it contains said item with a net sum greater than zero.

14. A computing system, comprising:

an accounts payable data base;

a preprocessor for identifying duplicate invoices from among electronic invoices received from a vendor before introducing said electronic invoices into said accounts payable data base by:

identifying electronic invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is

greater than zero;

an invoice processor for selectively automatically communicating a duplicate invoice rejection transaction back to said vendor for said original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base; or introducing said original electronic invoice not identified as said duplicate invoice into said accounts payable data base.

15. A program storage device tangibly embodying a program of instructions for controlling the operation of a computing system responsive to receipt of an electronic input invoice from a vendor according to a method comprising:

preprocessing before introduction into an accounts payable data base original electronic invoices received from a vendor to identify duplicate invoices, including:

identifying invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is greater than zero;

automatically communicating a duplicate invoice rejection transaction back to said vendor for said original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base; and

storing said original electronic invoices not identified as duplicate invoices into said accounts payable data base.

16. Method for operating an accounts payable computing system, comprising:

receiving an original electronic invoice from a vendor;

rejecting original electronic invoices received from vendors not initialized as trading partners, and translating original electronic invoices received from vendors initialized as trading partners;

assuring that during said translating the count of translated invoices rejected and accepted equals the number of original electronic invoices translated, and feeding accepted invoices for preprocessing;

preprocessing invoices accepted for preprocessing as received from a trading partner vendor, said preprocessing selectively validating a transaction, calculating line item accounts, deducting sales tax, and identifying original electronic invoices which are duplicate invoices before introduction into an accounts payable data base, said identifying duplicate invoices including:

sorting all inbound invoices in credit/debit sequence;

auditing only debit invoices one at a time for duplicate invoices and committing to said accounts

payable data base only those debit invoices which are not duplicate invoices;

identifying invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is greater than zero; said identifying including execution of check verbs, each said check verb being satisfied to identify said invoice as a duplicate invoice; said check verbs including determining that this vendor is a vendor for which duplicate invoice checking is to be performed, determining that there is a purchase order history of previous purchase orders for said invoice, and determining for each item on said invoice a sum of its purchase order history, with said sum being

greater than zero for at least one said item;

automatically communicating a duplicate invoice rejection transaction back to said vendor for an original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base;

posting said invoice to a workflow database and assuring that the number and amount of invoices posted to said workflow database equal the number and amount of translated invoices accepted for preprocessing;

logging to an error queue invoices failing audit for subsequent manual processing;

logging to an exceptions and warnings log table as exceptions invoices which are determined during preprocessing to be duplicate invoices and as warnings invoices which during preprocessing were recalculated or had sales tax deducted;

introducing said original electronic invoices not identified as duplicate invoices into said accounts

payable data base.

17. The method of claim 16, said preprocessing including

first sorting said original electronic invoice against an accounts payable production table for same vendor and same vendor invoice number;

second sorting hits from said first sorting for same purchase order billed;

third sorting hits from said second sorting for same items billed on purchase order;

calculating a net sum of said same items; and

rejecting back to said customer as a duplicate invoice said original electronic invoice if it contains said item with a net sum greater than zero.

18. A computing system, comprising:

an accounts payable data base;

a translator for receiving an original electronic invoice from a trading partner and selectively rejecting said original invoice back to said trading partner or accepting said original invoice for further processing;

a preprocessor for identifying duplicate invoices from among electronic invoices accepted for further processing before introducing said electronic invoices into said accounts payable data base by:

sorting all inbound invoices in credit/debit sequence;

auditing only debit invoices one at a time for duplicate invoices and committing to said accounts payable data base only those debit invoices which are not duplicate invoices;

identifying invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices

identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is greater than zero; said identifying including execution of check verbs, each said check verb being satisfied to identify said invoice as a duplicate invoice; said check verbs including determining that this vendor is a vendor for which duplicate invoice checking is to be performed, determining that there is a purchase order history of previous purchase orders for said invoice, and determining for each item on said invoice a sum of its purchase order history, with said sum being greater than zero for at least one said item;

an invoice processor for selectively automatically communicating a duplicate invoice rejection transaction back to said vendor for said original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base; or introducing said

original electronic invoice not identified as said duplicate invoice into said accounts payable data base.

19. A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform a method for operating a computing system responsive to receipt of an electronic input invoice from a vendor for selectively rejecting back to said vendor duplicate invoices without logging said duplicate invoices to an accounts payable database, said method comprising:

receiving an original electronic invoice from a vendor;

rejecting original electronic invoices received from vendors not initialized as trading partners, and translating original electronic invoices received from vendors initialized as trading partners;

assuring that during said translating the count of translated invoices rejected and accepted equals the number of original electronic invoices translated, and feeding accepted invoices for preprocessing;

preprocessing invoices accepted for preprocessing as

received from a trading partner vendor, said preprocessing selectively validating a transaction, calculating line item accounts, deducting sales tax, and identifying original electronic invoices which are duplicate invoices before introduction into an accounts payable data base, said identifying duplicate invoices including:

sorting all inbound invoices in credit/debit sequence;

auditing only debit invoices one at a time for duplicate invoices and committing to said accounts payable data base only those debit invoices which are not duplicate invoices;

identifying invoices having a same vendor invoice designation, same purchase order number, and same item number;

calculating a net sum of items on invoices identified as having said same vendor invoice designation, said same purchase order number, and said same item number;

identifying as a duplicate invoice an original electronic invoice for which said net sum is greater than zero; said identifying including execution of check verbs, each said check verb being satisfied to identify said invoice as a duplicate invoice; said check verbs including determining that this vendor is a vendor for which duplicate invoice checking is to be performed, determining that there is a purchase order history of previous purchase orders for said invoice, and determining for each item on said invoice a sum of its purchase order history, with said sum being greater than zero for at least one said item;

automatically communicating a duplicate invoice rejection transaction back to said vendor for an original electronic invoice identified as a duplicate invoice without posting said original electronic invoice to said accounts payable data base;

posting said invoice to a workflow database and assuring that the number and amount of invoices posted to said workflow database equal the number and amount of translated invoices accepted for preprocessing;

logging to an error queue invoices failing audit for subsequent manual processing;

logging to an exceptions and warnings log table as exceptions invoices which are determined during preprocessing to be duplicate invoices and as warnings invoices which during preprocessing were recalculated or had sales tax deducted;

introducing said original electronic invoices not identified as duplicate invoices into said accounts payable data base.

X. OTHER MATERIALS THAT APPELLANT CONSIDERS NECESSARY OR DESIRABLE

Not applicable.

Appellants respectfully request that claims 12-19 be allowed as patentable under the statute.

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